IN THE CLAIMS:

Please amend claims 1, 2, 5, 11-15, and 18-20 as follows:

LISTING OF CURRENT CLAIMS

Claim 1. (Currently Amended) A method for detecting microorganism DNA comprising:

(a)hybridizing the microorganism cDNA with microorganism-specific probes in hybridization ~~tube~~ tubes wherein ~~the probe~~ each of the probes is linked to a magnetic bead;

(b) transferring hybridization tubes to magnetic wells for washing;

(c) adding blocking solution into the tubes;

(d) adding avidin enzyme complex or streptavidin enzyme complex into the ~~tubes~~ tube;

(e) performing a washing reaction to remove interfering material by the aid of magnetic field;

(f) suspending each magnetic ~~beads~~ bead; and

(g)detecting ~~the luminescent or~~ a color change ~~after adding substrate of enzyme.~~ utilizing a luminescence-emission substrate.

Claim 2. (Currently Amended) The method of Claim 1, wherein the microorganism is *Mycobacterium* ~~tuberculosis.]~~ tuberculosis.

Claim 3. (Original) The method of Claim 1, wherein the microorganism cDNA are obtained from the PCR amplification mediated by bioactive primers.

Claim 4. (Original) The method of Claim 1, wherein the streptavidin enzyme complex in the step (d) is streptavidin horseradish peroxidase (SA-HRP).

Claim 5. (Currently Amended) The method of Claim 1, wherein the step (f)

suspending magnetic beads is performed by vortexing the ~~tube.~~ tubes.

Claim 6. (Original) The method of Claim 1, wherein the detection of the step (g) is performed by luminometer or spectrophotometer.

Claim 7. (Original) The method of Claim 1, wherein the steps (a)-(g) are performed in the same tube.

Claim 8. (Original) An apparatus for performing the dissociation of nucleic acid double strands, hybridization, washing, the separation of magnetic beads and thermal control in the same apparatus, comprising:

(a) the means for fitting reaction containers;

(b) the means for controlling the temperature of the containers; and

(c) the means for controlling the magnetic force of the containers,

wherein the means for controlling the temperature of the containers are connected to the means for fitting reaction containers, and the means for controlling the magnetic force of the containers are connected to the means for fitting reaction containers.

Claim 9. (Original) The apparatus of Claim 8, wherein the means for controlling the temperature of the containers to heat the containers to perform the dissociation of nucleic acid double strands according to temperature change.

Claim 10. (Original) The apparatus of Claim 8, wherein the means for controlling the magnetic force of the containers to perform the magnetic change of magnetic bead to facilitate hybridization, washing and the separation of magnetic beads in the containers.

Claim 11. (Currently Amended) A ~~diagnostic kit~~ system for detecting microorganism cDNA comprising:

(a) a probe linked to a magnetic bead;

(b) bioactive primers;

(c) avidin enzyme complex or streptavidin enzyme complex; and

(d) ~~nzyme~~ enzyme substrate.

Claim 12. (Currently Amended) The ~~kit~~ system of Claim 11, wherein the bioactive primers are made by reacting a DNA labeling reagent with the primers.

Claim 13. (Currently Amended) The ~~kit~~ system of Claim 12, wherein the DNA labeling reagent is the a compound having ~~the~~ a formula:

Fu-BE-D

wherein FU represents a Furocoumarin ~~derivative~~ compound selected from the group consisting of angelicin ~~derivatives~~ compound and psoralen ~~derivatives;~~ compound;

wherein BE represents none or a binding enhancer selected from the group consisting of C4-12 alkyl, alkyenyl, polyalkylamine and polyethylene glycol; and ~~Wherein~~ wherein D represents a detectable group selected from the group consisting of: biotin, fluorescence, acridinium ester and acridinium-9-carboxamide.

Claim 14. (Currently Amended) The ~~kit~~ system of Claim 12, wherein the DNA labeling reagent is 9-(4"-(Aminomethyl)-4', 5"-Dimethyl-angelicin) acridinium carboxamide.

Claim 15. (Currently Amended) An assay system for detecting microorganisms, the system comprising:

(i) diagnostic kit for detecting microorganism cDNA comprising:

(a) a probe linked to magnetic bead;

(b) bioactive primers;

(c) avidin enzyme complex or streptavidin enzyme complex; and

(d) enzyme ~~substrate~~ substrate;

(ii) an apparatus for performing the dissociation of nucleic acid double strands, hybridization, washing, the separation of magnetic beads and thermal control in the same apparatus, comprising:

(a) the means for fitting reaction containers;

(b) the means for controlling the temperature of the containers; and

(c) the means for controlling the magnetic force of the containers,

wherein the means for controlling the temperature of the containers are connected to the means for fitting reaction containers, and the means for controlling the magnetic force of the containers are connected to the means for fitting reaction containers;

(iii) a magnetic rack to bind the magnetic bead on the wall of the containers; and

(iv) a detector.

Claim 16. (Original) The assay system of Claim 15, wherein the bioactive primers are made by reacting DNA labeling reagent with the primers.

Claim 17. (Original) The assay system of Claim 15, wherein the streptavidin enzyme complex in the kit is streptavidin horseradish peroxidase (SA-HRP).

Claim 18. (Currently Amended) The assay system of Claim 15, ~~which can differentiate~~ wherein the assay system differentiates *M. tuberculosis* from *M. marinum, M. avium* and *M. ~~intracellulare~~*19. Intracellulare.

Claim 19. (Currently Amended) The assay system of Claim 15, wherein the detector is one of a luminometer ~~or~~ and a spectrophotometer.

Claim 20. (Currently Amended) The assay system of Claim ~~15 The kit of Claim~~ 15, wherein the DNA labeling reagent ~~in the kit~~ is 9-(4"-(Aminomethyl)-4', 5"-Dimethyl-angelicin) acridinium carboxamide.